

# Clean Air Scientific Advisory Committee

## National Ambient Air Monitoring Strategy (NAAMS)

### Subcommittee

### FY 2004 Member Biosketches

#### National Ambient Air Monitoring Strategy (NAAMS) Subcommittee

##### Amar, Praveen

###### Northeast States for Coordinated Air Use Management

Dr. Praveen Amar is the Director of Science and Policy at NESCAUM (Northeast States for Coordinated Air Use Management). NESCAUM is an interagency association of eight northeastern states (New York, New Jersey, Connecticut, Maine, Massachusetts, Vermont, Rhode Island, and New Hampshire). NESCAUM provides high-level scientific and policy-relevant input to its member states on regional air pollution issues. His key area of expertise is to "translate" the implications of findings of science and developments in technology into workable and cost-effective policy options for the states in the Northeast. These policy options have involved regional control of emissions of oxides of nitrogen and sulfur including market-based approaches, relative roles of local and regional sources, regional planning for achieving standards for fine particles and ozone, cost-effective technologies to reduce emissions of mercury from large utility boilers and municipal waste combustors, and promotion of environmentally friendly distributed generation technologies. While at NESCAUM, he has served as a member of the EPA's New Source Review Advisory Subcommittee that has provided guidance to the EPA's effort to reform the NSR permitting program. He was a member of the Science Advisory Committee (1993-2001) for the MIT-Caltech Center on Airborne Organics. He is a member of the Synthesis Team for the NARSTO that produced the July 2000 report "An Assessment of Tropospheric Ozone Pollution" and is currently working on a similar document on fine particles, to be published in March 2003. NARSTO has active participation of scientists from the U.S., Canada, and Mexico. He is a member of the modeling working group of the STAPPA/ALAPCO (State and Territorial Air Pollution Program Administrators/Association of Local Air Pollution Control Officials). Currently, Dr. Amar is serving as a member representing states interests in the EPA's Mercury MACT stakeholders workgroup. The joint state-industry-environmentalists workgroup is advising EPA on MACT development and is expected to finish its work by the end of 2002. Before joining NESCAUM, Dr. Amar was with the California Air Resources Board for fifteen years where he managed programs on air pollution research, strategic planning, and industrial source pollution control. For over 10 years, he has been a part-time faculty member at the University of California, Davis, and California State University at Sacramento, and Tufts University in Boston, teaching undergraduate and graduate courses in air pollution science, atmospheric chemistry and physics, mechanical engineering, and air pollution policy. He received his Ph.D. in engineering from UCLA in 1977. He is a licensed Mechanical Engineer in the state of California. Dr. Amar's work at NESCAUM gets its financial support from its member states (6 New England states and New York and New Jersey) and through grants from EPA to member states through "sections 105 and 103 Grants" given under the Clean Air Act grants programs to states.

##### Beskid, Craig

###### Mickey Leland National Urban Air Toxics Research Center

Mr. Craig Beskid is the Executive Director of the Mickey Leland National Urban Air Toxics Research Center. His areas of expertise include ambient air monitoring of criteria and air toxics, and the health effects of urban air toxics. He was awarded an M.S. in Engineering from the University of Florida, 1980. Mr. Beskid is the author of a professional article recently published in Environmental Health Perspectives (August 2002), entitled, "Environment Air Toxics: Role in Asthma Occurrence. His service on other advisory committees and professional associations includes: Chairman, Regional Air Quality Planning Committee (RAQPC), organize and lead meetings of government, academia and industry on air quality and environmental health issues; Vice-Chair, Greater Houston Partnership (GHP), organize and lead meetings of government, academia and industry on air quality and environmental health issues; and Board President, Houston Regional Monitoring (HRM), oversee fiscal and technical management of 7 site air quality monitoring program. The Mickey Leland National Urban Air Toxics Research Center receives EPA Assistance grants.

##### Croes, Bart

###### California Air Resources Board

Mr. Bart Croes is currently Chief, Research Division, California Air Resources Board and director of the State's health and exposure research program. An atmospheric scientist with a background in air quality simulation modeling and a P. E. in Chemical Engineering (California), Mr. Croes was formerly responsible for the design of California's air-quality measurement program. Mr. Croes holds advanced degrees with an M.S. (Chemical Engineering) from the University of California at Santa Barbara, 1983, and a B.S. (Chemical Engineering) from California Institute of Technology, 1979. Mr. Croes is Public Sector Co-Chair, Executive Assembly, NARSTO, and is a member of the National Research Council Committee on Research Priorities for Airborne Particulate Matter. He received the Editors' Citation for Excellence in Refereeing, Journal of Geophysical Research. Mr. Croes has had the following articles published by the NRC: "Research Priorities for Airborne Particulate Matter: III" (2001); "Early Research Progress and Research Priorities for Airborne Particulate Matter: II" (1999); "Evaluating Research Progress and Updating the Portfolio" (1999); and, with M. S. Bergin, A. G. Russell, W. P. L. Carter, and J. H. Seinfeld, "Ozone Control and VOC Reactivity" (1998). He has contributed to numerous publications: Encyclopedia of Environmental Analysis and Remediation, John Wiley & Sons, Inc. (1995); "Acid Deposition in California: Findings from a Program of Monitoring and Effects Research, Water, Air and Soil Pollution," 85; Acid Reign '95, Proceedings from the 5th International Conference on Acidic Deposition, June 26-30; and, with A. Russell, J. Milford, M. S. Bergin, S. McBride, L. McNair, Y. Yang, and W. R. Stockwell, "Urban Ozone Control and Atmospheric Reactivity of Organic Gases," Science, 269 (1995).

## Demerjian, Kenneth

State University of New York

Dr. Kenneth Demerjian is currently a Professor in the Department of Earth and Atmospheric Science, and Director, Atmospheric Sciences Research Center, and the University at Albany, SUNY. Dr. Demerjian was awarded his M.S. and Ph.D. in physical chemistry from the Ohio State University in 1970 and 1973, respectively. He received his B.A. in chemistry from Northeastern University in 1968. His areas of expertise, and research activities and interests include: chemical kinetics and mechanistic pathways of elementary atmospheric reactions in polluted and clean atmospheres; instrumentation development and measurement of atmospheric trace gases and particulate matter; development and evaluation of air quality forecast models and diagnostic analysis of atmospheric processes within air quality modeling systems; and sources and evaluation of uncertainty in theoretical models of atmospheric processes, air quality, and pollutant exposure. Dr. Demerjian's leadership positions in national associations or professional publications include: Associate Editor, Atmospheric Environment, November, 2002 to present; Board on Oceans and Atmosphere NASULGC, November 2001 to November 2004; Member, UCAR Members' Nominating Committee, October 2001 to present; and Chairman, Committee for the Atmospheric Chemistry and Environmental Education in Global Change, 1994 to 1999. Dr. Demerjian's service on other advisory committees and professional associations includes: Member, Research Committee, Health Effects Institute, July 2002 to present; Member, National Research Council Committee on Atmospheric Chemistry, August 1999 to 2001; Co-Chair, Synthesis Team - NARSTO, October 1996 to March 2000; and Member, National Research Council Committee on Research Opportunities and Priorities for the Environmental Protection Agency (ROPE), November 1995 to June 1997.

## Diaz-Sanchez, David

University of California at Los Angeles

Dr. David Diaz-Sanchez is Assistant Professor in the Department of Medicine, University of California, Los Angeles. For 15 years, Dr. Diaz-Sanchez' work has focused on the role of the environment in affecting immune responses with special emphasis on the ability of environmental agents to modulate the allergic and asthmatic response. For his Ph.D., he studied why workers in castor bean factories had very high incidence of allergy and asthma. Since that time his primary focus has centered on the link between industrialization and allergic diseases. Using human and animal models, Dr. Diaz-Sanchez has demonstrated and published extensively on the ability of combustion products to exacerbate allergy/asthma using the model pollutant diesel exhaust particles (DEP). In addition, his research has shown that particulate pollutants can also initiate allergy/asthma by promoting allergic sensitization. Dr. Diaz-Sanchez received his Ph.D. from Guy's Hospital, London, England, in 1991, and B.Sc. from University College, London, England, in 1987. Dr. Diaz-Sanchez served previously as a consultant to EPA's Clean Air Scientific Advisory Committee (CASAC) from 1998 to 2001. In 1999, he worked at the Southern California Environmental Health Sciences Center and in 1998 at the Children's Environmental Health Center in Southern California. He has recently served on the editorial boards of two publications; namely, Clinical Immunology in 2001 and Immunology in 2000.

## Hopke, Philip                      Chair

Clarkson University

Dr. Philip K. Hopke is the Bayard D. Clarkson Distinguished Professor at Clarkson University and the Director of the Center for Air Resources Engineering and Science. In October 1997, he was appointed by the Administrator of the U.S. Environmental Protection Agency (EPA) as a member of the Clean Air Scientific Advisory Committee (CASAC), which is administratively located at EPA under the Science Advisory Board (SAB). Dr. Hopke is presently Chair of the CASAC, and he also chairs both the CASAC Subcommittee on Particle Monitoring and the CASAC National Ambient Air Monitoring Strategy (NAAMS) Subcommittee. In addition, he serves as an SAB Board Member. Professor Hopke is the current President of the American Association for Aerosol Research, and is a member of the National Research Council's Congressionally-mandated Committee on Research Priorities for Airborne Particulate Matter and the Committee on Air Quality Management in the United States. He has previously served on five other NRC committees. Professor Hopke received his B.S. in Chemistry from Trinity College (Hartford) and his M.A. and Ph.D. degrees in chemistry from Princeton University. After a post-doctoral appointment at M.I.T., he spent four years as an assistant professor at the State University College at Fredonia, NY. Dr. Hopke then joined the University of Illinois at Urbana-Champaign, and subsequently came to Clarkson in 1989 as the Robert A. Plane Professor with a principal appointment in the Department of Chemistry. He has served as Dean of the Graduate School, Chair of the Department of Chemistry, and Head of the Division of Chemical and Physical Sciences before he moved his principal appointment to the Department of Chemical Engineering in 2000.

## Husar, Rudolf

### Washington University

Dr. Rudolf B. Husar is currently Professor of Mechanical Engineering, Director of Center for Air Pollution Impact and Trend Analysis (CAPITA), Washington University, St. Louis. In the early 1970s he was a post-doctoral fellow at the California Institute of Technology, Pasadena, CA. Dr. Husar's Ph.D. is in Mechanical Engineering from the University of Minnesota, Minneapolis, in 1966. He received a Dipl. Ing. in Mechanical Engineering from Technical University, Berlin, FRG. His past research includes: atmospheric aerosols; regional and global air pollution transport and chemistry; biogeochemical cycles; environmental trend analysis; monitoring network evaluation and design. His interests include environmental informatics (the application of information science, engineering, and technology to environmental problems) as well as scientific support to air quality. Dr. Husar has served as an executive editor of the journal Atmospheric Environment, and on the boards of five other international journals, including as Associate Editor, Atmospheric Systems; The Scientific World, (2001-present), member of Editorial Board, Environmental Monitoring and Assessment, (2000-present). He is a member of the Hungarian Academy of Sciences and served on five committees of the U.S. National Academy of Sciences. Dr. Husar has also served on numerous national and international panels and committees dealing with various aspects of atmospheric sciences and air quality management. He was a contributor to EPA's Particulate Matter Criteria Document Panel in 1996. Recent publications include articles (with others) in the Journal of the Waste Management Association, Atmospheric Environment, and the Journal of Geophys. Res. (all in 2001). Another article, "Sulfur and Nitrogen over North America, Global Aspects of the Environment," is available from the Elgar Reference Collection, Cheltenham, UK, and Northampton, USA (1999).

## Poirot, Richard L.

### Vermont Agency of Natural Resources

Mr. Richard L. Poirot has worked as an environmental analyst in the Air Quality Planning section of the Vermont Department of Environmental Conservation since 1978. His responsibilities include developing the technical support for State Implementation Plans (SIPs) to ensure attainment and maintenance of Federal and State standards for ozone, particulate matter, and regional haze. Given the rural nature and northeasterly location of Vermont, the influence of regional-scale pollution transport is of particular interest. Lacking sophisticated atmospheric chemistry modeling expertise and resources, Mr. Poirot has also developed interests in drawing inference on the nature of pollution sources from analysis of ambient measurement data, and in working in collaborative regional scientific of science/policy forums. For example, he is or has been a participant on Ambient Monitoring and Assessment Committee for the Northeast States for Coordinated Air Use Management, the Data Analysis workgroup for the Ozone Transport Assessment Group, the Science and Technical Support Workgroup for the FACA Subcommittee on Ozone, Particulate Matter and Regional Haze, the Monitoring and Data Analysis Workgroup for the Mid Atlantic/Northeast Visibility Union (MANE-VU), the EPA PM-2.5 Data Analysis workgroup, the Steering Committee for the Interagency Monitoring of Protected Visual Environments, and the US/Canada (Air Quality Agreement) Subcommittee on Scientific Cooperation. Mr. Poirot holds a B.A. degree from Dartmouth College, where he majored in geography and environmental studies. In November 2001, he was appointed by the Administrator of the U.S. Environmental Protection Agency (EPA) as a member of the Clean Air Scientific Advisory Committee (CASAC) of EPA's Science Advisory Board.

## Russell, Armistead (Ted)

### Georgia Institute of Technology

Dr. Armistead G. Russell is the Georgia Power Distinguished Professor and Coordinator of Environmental Engineering at the Georgia Institute of Technology. Professor Russell arrived at Georgia Tech in 1996, from Carnegie Mellon University, and has expertise in air quality engineering, with particular emphasis in air quality modeling and analysis. He earned his M.S. and Ph.D. degrees in Mechanical Engineering at the California Institute of Technology in 1980 and 1985, conducting his research at Caltech's Environmental Quality Laboratory. His B.S. is from Washington State University (1979). Dr. Russell has been a member of a number of the National Research Council's committees, including chairing the Committee to Review EPA's Mobile Model and chairing the committee on Carbon Monoxide Episodes in Meteorological and Topographical Problem Areas, and serving on the committee on Tropospheric Ozone Formation and Measurement, the committee on ozone forming potential of reformulated fuels and the committee on Risk Assessment of Hazardous Air Pollutants. He was also a member of the EPA FACA Subcommittee on Ozone, Particulate Matter and Regional Haze, the North American Research Strategy for Tropospheric Ozone and California's Reactivity Science Advisory Committee. Previously he was on the Office of Science, Technology and Policy's Oxygenated Fuels Program Review and various National Research Council program reviews. Dr. Russell is a member of the Air and Waste Management Association, American Association for the Advancement of Science, American Society of Mechanical Engineering, Tau Beta Pi, Sigma Xi and the American Association for Aerosol Research. Dr. Russell has won a variety of competitions for animations he has developed that depict the dynamics of pollutants have won a variety of prizes here and abroad, and his work was selected as a finalist for the prestigious Smithsonian Award for Computing in the Environmental Sciences. Recently, Prof. Russell led a multi-institutional effort to conduct air quality modeling of ozone, particulate matter and acid deposition to assist the Southern Appalachians Mountains Initiative to identify effective control strategies to improve air quality in Class I areas in the southern Appalachians. This work has been extended to detailed analysis of air quality strategies in Georgia, particulate matter modeling in the Southeast and Northeast, and development of a number of advanced numerical techniques for environmental modeling. For his service to National Research Council committees, he was recently selected as a National Associate of the National Academies.

## Tanner, Roger L.

### Tennessee Valley Authority (TVA)

Dr. Roger L. Tanner is currently the principal Scientist for the Air, Land and Water Sciences Department at TVA's Environmental Research Center in Muscle Shoals, Alabama. He received his Ph.D. in Analytical Chemistry from the University of Illinois in 1969 under Professor Richard S. Juvet, and received his B.S. in Chemistry from Pennsylvania State University in 1964. Dr. Tanner's professional affiliations include serving as a member of the American Chemical Society and its Environmental Chemistry Division; and as a member of the American Association for the Advancement of Science, the American Geophysical Union, and the American Association for Aerosol Research. His professional interests include the analytical chemistry of trace substances in the atmosphere as applied broadly in the following interconnected areas: (1) formation of fine aerosols from gaseous precursors, their atmospheric equilibria, transport and transformation, and health effects; (2) atmospheric photochemistry, transformation and loss of inorganic and organic reactive nitrogen, sulfur and oxygenated compounds especially as related to atmospheric ozone levels; and (3) atmospheric and climatic effects of biogenic and biomass combustion aerosols. Dr. Tanner has been involved in a large number of field measurement campaigns at numerous locations in the United States using both surface and airborne measurement techniques. He has also made measurements of airborne gases and particles at locations in Canada and Brazil, and published over 85 papers in peer-reviewed publications. Dr. Tanner has served on the IUPAC Commission on Environmental Analytical Chemistry (1990-1995), the Electric Power Research Institute (EPRI) Advisory Committee on Health Effects Research, and EPA's Chemistry and Physics Review Panel (1986-1992, 1995). He has co-chaired several symposia on aerosol measurements, including most recently acting as co-chair for the American Chemical Society's Symposium on Environmental Chemistry of the Atmosphere: 2000 and Beyond in San Francisco, March, 2000. Dr. Tanner recently received an EPRI Environmental Sector 2002 Delivery and Applications Award as a Research Champion for aerosol measurements in the Great Smoky Mountains. Dr. Tanner has received grants or contract support from the following entities: EPA, Cooperative Agreement through the Southern Oxidant Study; TVA, Data Analysis of SOS Data; and EPRI, Aircraft Data Analysis for CCOS.SESARM/VISTAS, Install and Operate Continuous Speciated Fine Particulate Monitors (Look Rock, TN), Application of CUF Plume Data to Assess Alternate Model Approaches. Internal funding was received from TVA for several projects related to ambient aerosol monitoring in the Tennessee Valley. For DOE and EPRI, Dr. Tanner participated in the Development of a Regional Site for Special Purpose Measurements of Fine Particulate Mass and Composition.